

Applicants: Marshall et al.  
U.S. Serial No.: 09/837,235  
Filing Date: April 18, 2001  
Page 2 of 9

Docket No. 289550-122 US2

**IN THE CLAIMS:**

**Listing and Status of Claims**

1-9 (canceled)

10 (currently amended): An isolated protein comprising at least one di-tyrosine cross-link ~~introduced by genetic engineering, which~~, wherein at least one tyrosine of a di-tyrosine cross-link originates from a point mutation to tyrosine, and wherein the protein retains at least one function displayed by the protein in the absence of di-tyrosine cross-linking.

11 (currently amended): The protein of claim 10, further comprising at least one amino acid which originates from a point mutation from ~~was substituted for a tyrosine residue~~ such that the amino acid residue substituted for the tyrosine residue is not cross-linked under cross-linking conditions.

12 (currently amended): The protein of claim 10, wherein the function retained comprises ~~is selected from the group consisting of~~ catalytic activity ~~and~~ or binding specificity.

13 (currently amended): The protein of claim 10, ~~which is selected from the group consisting of~~ wherein the protein comprises an enzyme, and an antibody, or a fragment thereof.

14 to 17 (canceled)

18 (currently amended): A method for making a stabilized protein comprising:

- (a) selecting one or more residue pairs in a polypeptide chain or chains for cross-linking, wherein at least one of the selected residues are is tyrosine ~~when cross-linked~~; and
- (b) cross-linking the residue pairs.

Applicants: Marshall et al.  
U.S. Serial No.: 09/837,235  
Filing Date: April 18, 2001  
Page 3 of 9

Docket No. 289550-122 US2

19 (currently amended): The method of claim 18, wherein the cross-link reaction occurs in the presence of one or more oxidants ~~an oxidant~~ selected from the group consisting of hydrogen peroxide, oxone, magnesium monoperoxyphthalic acid hexahydrate (MMPP), a photogenerated oxidant, ~~and ammonium persulfate,~~ or any combination thereof.

20 (currently amended): The method of claim 19, wherein cross-linking is catalyzed by a catalyst selected from the group consisting of polyhistidine, Gly-Gly-His, ~~and a~~ metalloporphyrin, a peroxidase or any combination thereof.

21 (cancelled)

22 (currently amended): The protein of claim 10, ~~A protein comprising at least one di-tyrosine cross-link, which protein retains at least one function displayed by the protein in the absence of di-tyrosine cross-linking,~~ wherein the protein is selected from the group consisting of comprises a hormone, a receptor, a growth factor, an enzyme ~~and or~~ or an antibody.

23 (new): The protein of any of claims 10-13 or 22, wherein the protein further comprises a pharmaceutical composition.

24 (new): The protein of claim 23, wherein the pharmaceutical composition comprises a pharmaceutically acceptable carrier.

25 (new): The protein of claim 23, wherein the pharmaceutical composition is suitable for *in vivo* use in humans.

26 (new): The protein of any of claims 10-13 or 22, wherein the protein is part of a kit.